

## New thieno:imidazole derivatives - are angiotensin-II antagonists for treating hypertension, cardiac insufficiency, angina pectoris and arteriosclerosis

Patent Number: DE4034728  
Publication date: 1992-05-07  
Inventor(s): KUHNKE JOACHIM DR (DE); SCHOELLKOPF KLAUS DR (DE); BECKMANN ROLF DR (DE); GRAF HERMANN DR (DE)  
Applicant(s): SCHERING AG (DE)  
Requested Patent:  DE4034728  
Application Number: DE19904034728 19901030  
Priority Number (s): DE19904034728 19901030  
IPC Classification: A61K31/41; A61K31/445; A61K31/495; C07D495/04; C07D495/14; C07D495/18;  
EC Classification: C07D495/04  
Equivalents:

### Abstract

Thienoimidazole derivs. of formula (I) and their acid and base addn. salts are new, where A is (a)-(c), R1 = H, 1-8C alkyl, 3-6C alkenyl, 3-6C alkynyl (these last 3 gps. opt. subst. with one halogen, one OR5 or 2 benzyl, R2 = (d) or (e), G = (f)-(k), the dotted line is a double or single bond B is -(CH2)p-, CR116R17, -C(=O)R17)CH2-, -CH2C(R16R17)- or C=CR19R19, R3 and R4 = each H, F, Cl, Br, 1-6C alkyl, 2-6C alkenyl, 2-6C alkynyl, 1-6C perfluoroalkyl, 3-6C cycloalkyl, 1-4C alkoxy, CN, C6F5, -(CH2)nOR5, -(CH2)nOCOR5, -(CH2)mCOR6, -(CH2)mNHCOOR7, -(CH2)mNHCOR7, -NR8R9 or -(CH2)mR11 or in the case of A = (a) or (c), R3 and R4 together form a ring via gps. -COY(CH2)p-, -(CH2)pCOY-, -CH2COYCH2-, -CH2Z(CH2)p-, -perfluoroalkyl, Ph, NR8R9 or OR5, R7 = 1-4C alkyl or benzyl, R8 and R9 = each H, 1-4C alkyl, Ph, benzyl or together with the N form a ring of formula (I), R10 = H, 1-4C alkyl, benzyl or 1-6C alkanoyl, R11 = -C6H4R12, R12 = H, F, Cl, Br, -NR5R10, 1-4C alkoxy, OH or CO2R5, R13 = CO2R5, -NHSO2R20 or (m), R14 and R15 = each H, F, Cl, Br, CN or OR5, R16 and R17 = each H, 1-4C alkyl, 3-4C alkenyl, 3-4C alkynyl CH2, O or NR10, W = O, S, NH or CH=CH, X = O, S or NH, Y = O or NH, Z = CH2, O, S or NR10, I = 3, 4, m = 0-3, n = 1-6, p = 1-2, r = 4-5.

USE/ADVANTAGE - (I) are competitive angiotensin II antagonists which bond with high affinity on angiotensin II receptors and inhibit angiotensin II induced effects both in vivo and in vitro. (I) can therefore be used to treat disorders of the heart and circulation e.g. hypertension, cardiac insufficiency, angina pectoris and arteriosclerosis. Suitable doses are 0.01-50 mg/kg.

Data supplied from the esp@cenet database - 12